# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 09/503,939 | 02/14/2000 | Andrew H. Gafken | 2207/8478 | 7313 |

| 23838 | 7590 | 02/24/2004 |
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2135 | 7 |

DATE MAILED: 02/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) <u>1-42</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-42</u> is/are rejected.

7)☒ Claim(s) <u>34</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>14 February 2000</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>4, 6</u>.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

## DETAILED ACTION

### *Drawings*

New corrected drawings are required in this application because the reference numerals

are handwritten. Applicant is advised to employ the services of a competent patent draftsperson

outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings.

The corrected drawings are required in reply to the Office action to avoid abandonment of the

application. The requirement for corrected drawings will not be held in abeyance.

### *Claim Objections*

Claim 34 is objected to because of the following informalities:  It is dependent upon

itself. For the purpose of applying art, the examiner interprets Claim 34 to depend on Claim 33.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5, 7, 11, 37-41 are rejected under 35 U.S.C. 102(b) as being anticipated by

Davis (5844986).

With regards to Claim 1, the limitation of "receiving a data object having a BIOS package and an associated signature, authenticating the BIOS package using a public key stored on the computer and the signature" is met on column 3, lines 61-67 and on column 4, lines 1-4; and "if the authentication succeeds, writing the BIOS package to firmware on the computer system" is met on column 4, lines 4-18, column 3, lines 44-46.

With regards to Claim 2, the limitation of "wherein the signature is generated by a public key-private key pair, the public key of which is stored on the computer" is met on column 3, lines 66-67, column 4, lines 1-4 and 34-37.

With regards to Claim 3, the limitation "wherein the receiving comprises loading the data object from a storage device" is met on column 3, lines 38-41.

With respect to Claim 4, the limitation "wherein the receiving comprises receiving the data object from a communication network" is met on column 3, lines 41-44.

With regards to Claim 5, the limitation of "wherein the receiving comprises receiving the data object 15 from a computer network" is met on column 3, lines 41-44.

With respect to Claim 7, the limitation of "determining whether system memory contains a BIOS package" is met on column 3, lines 48-54; and "authenticating the BIOS package" is

met on column 3, lines 61-67; and "upon successful authentication, storing the BIOS package in

firmware" is met on column 4, lines 14-18 and on column 3, lines 44-46.


With respect to Claim 11, the limitation of "based on content of the BIOS update,

creating a digital signature according to a private key of a public key-private key pair" is

met on column 3, lines 66-67, column 4, lines 1-4 and 40-46; and "storing the BIOS

update and the digital signature on a storage medium" is met on column 3, lines 61-63.

The storage medium is represented by the cryptographic processor.  Further limitation of

"responsive to a request from a computer, transferring the BIOS update and the digital

signature to the computer" is met on column 2, lines 58-59.  Since the BIOS update is

already stored in the cryptographic processor then this limitation is met.


With respect to Claim 37, its limitation is similar to Claim 1 limitations and hence its

rejection can be found therein.


With respect to Claim 38, its limitation is similar to Claim 2 limitations and hence its

rejection can be found therein.


With respect to Claim 39, its limitation is similar to Claim 3 limitations and hence its

rejection can be found therein.

With respect to Claim 40, its limitation is similar to Claim 4 limitations and hence its

rejection can be found therein.

With respect to Claim 41, its limitation is similar to Claim 5 limitations and hence its

rejection can be found therein.

Claims 9,10,16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Cooper et

al (5805882).

With respect to Claim 9, the limitation "a processor" is met on column 4, lines 57-59; and

"firmware electrically connected to the processor" is met on column 2, lines 11-14; and

"a first storage space to store a first system BIOS, the first storage space being a read only

memory" on column 1, lines 32-39; and "a second storage space to store a second system BIOS

and an index table associating elements of the second system BIOS with elements of the first

system BIOS" on column 3, lines 6-10 and column 10, lines 23-25, 35-37.  The index table is

represented by the cited address space located in memory.

With respect to Claim 10, the limitation "the first storage space is to store a

system BIOS and at least one ancillary BIOS and the index table identifying the BIOSs"

is met on column 3, lines 6-10 and on column 10, lines 23-25 and 35-37.

With respect to Claim 16, the limitation "executing a system BIOS from a default

memory space" is met on column 10, lines 23-25; and "executing an ancillary BIOS according to

determining whether an ancillary BIOS exists in an alterable memory space" is met on column

10, lines 12-42; and "if no ancillary BIOS exist in the alterable section, executing an ancillary

BIOS from the default memory space" on column 10, lines 12-42.

With respect to Claim 17, the limitation "if an ancillary BIOS exists in the

alterable section, executing the ancillary BIOS in the alterable section" is met on column 9, lines

58-67 and on column 10, lines 1-9.

With respect to Claim 18, the limitation "determining whether a predetermined user

command has been entered and, if no predetermined user command has been entered, executing

the ancillary BIOS from the alterable section" is met on column 9, lines 25-29.

Claims 20-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Noll (6185696

B1).

With respect to Claim 20, the limitation of "determining whether an ancillary BIOS

package is present in an enhancement space of firmware" is met inherently on column 6, lines 8-

15. Further limitation of "if the ancillary BIOS package is present, determining whether a

predetermined user command has been entered if the predetermined user command has not been

entered, executing the ancillary BIOS package from the enhancement space, otherwise,

executing an ancillary BIOS from a default space of firmware" is inherently met on column 6,

lines 16-22. In the cited art, since simultaneous failure is not ruled out, the user is left with no

alternative but to restart/reset the computer. Hence this represents the predetermined user

command. Fig. 2A also shows that the machine cannot at point 216, the system failure occurs

and hence the user is left with no recourse but to reboot the system.

With respect to claim 21, the limitation "decompressing the ancillary BIOS from the

alterable section and executing the decompressed ancillary BIOS" is met on column 5, lines 2-5

and the latter on column 5, lines 5-13.

With respect to claim 22, the limitation "determining whether an ancillary BIOS package

is present in an enhancement space of firmware, if the ancillary BIOS package is present,

determining whether a predetermined flag has been set in the firmware, if the predetermined user

command has been set, executing the ancillary BIOS package from the enhancement space,

otherwise, executing an ancillary BIOS from a default space of firmware" is met on column 5,

lines 5-45 and on column 6, lines 6-15. This is because the RAM represents the enhancement

space and the secondary BIOS represents the ancillary BIOS. The flag that is set is the

ROMSEL1. After the secondary BIOS as shown on column 6, lines 6-15 is loaded into the

RAM, ROMSEL1 is set and then the CPU executes from the RAM. Otherwise the CPU

executes from the default space. (please see column 6, lines 23-40)

With respect to Claim 23, the limitation is similar to Claim 21 and hence its rejection can

be found therein.

With respect to Claim 24, the limitation "determining whether an ancillary BIOS package

is present in an enhancement space of firmware" is met on column 5, lines 5-7 with respect to

column 6, lines 8-15; and "if the ancillary BIOS package is present in the enhancement space

decompressing the ancillary BIOS package" is met on column 6, lines 40-44; and "executing the

ancillary BIOS package" is inherently met on column 6, lines 40-50.


With respect to Claim 25, the limitation "searching memory for a decompressor

associated with the ancillary BIOS package and, if the decompressor is not found, executing a

second ancillary BIOS package from a default space of firmware" is inherently met on column 2,

lines 18-26 and 36-43.


### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 6, 8 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis

(5844986) in view of Cooper et al (5805882).

With respect to Claim 6, Davis meets all the limitation except the limitation disclosed

below.

The limitation of "via an operating system, storing fragments of the received data object

in system memory, creating a table identifying locations of each fragment in system memory,

and assembling the BIOS package from the fragments using the table" is met by Cooper et al on column 9, lines 30-67 and on column 10, lines 1-42.

It would have been obvious to combine the teachings of Cooper within the system Davis because this would enhance the access speed to the routines stored in the BIOS. (see Cooper et al , lines 12-14)

With respect to claim 8, Davis meets all the limitation except the limitation disclosed below.

The limitation of "determining whether the BIOS package is successfully stored in the firmware," is met by Cooper et al on column 10, lines 61-67; and "if so, report a success flag identifying the BIOS package as successfully stored" is met by Cooper et al on column 11, lines 11-13 and on Fig. 4B, ref. nos. 228.

It would have been obvious to combine the teachings of Cooper within the system Davis because setting a flag to let the system know that the BIOS is successfully stored will enable the system to know whether or not to proceed with loading a backup BIOS.

With respect to Claim 42, its limitation is similar to Claim 6 limitation and hence its rejection can be found therein.

Claims 12-15, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al (5805882) in view of Davis (5844986).

With respect to Claim 12, Cooper et al meets all the limitation except the limitation disclosed below.

The limitation "transferring the data object from a memory device" is met by Davis on column 3, lines 38-41.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Davis within the system of Cooper et al because transferring the data object from a memory device allows the system to download the BIOS from a portable storage/memory device and hence makes the BIOS program more readily available to other users that might wish to download their BIOS update from that same device. Hence if the network is down and the BIOS is not able to be accessed, a memory device will be a reliable, alternative way of being able to download the update BIOS.


With respect to Claim 13, all the limitation is met by Cooper et al except the limitation disclosed below.

The limitation of "transferring comprises transferring the data object from a communication network" is met by Davis on column 3, lines 41-44.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Davis within the system of Cooper et al because the communication network provides a fast way to download the update BIOS. Furthermore, this update can be automated and hence eliminates user intervention, and hence saves the user's much valued time.

With respect to Claim 14, all the limitation is met by Cooper et al except the limitation disclosed below.

The limitation of "wherein the transferring comprises transferring the data object from a computer network" is met by Davis on column 3, lines 41-44.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Davis within the system of Cooper et al because the computer network provides a fast way to download the update BIOS. Furthermore, this update can be automated and hence eliminates user intervention, and hence saves the user's much valued time.

With respect to Claim 15, all the limitation is met by Cooper et al except the limitation disclosed below.

The limitation of "wherein a public key of the public key-private key pair is stored in the computer" is met by Davis on column 4, lines 31-34.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Davis within the system of Cooper et al because public key is used in digital signatures which are used to authenticate the update BIOS to prevent a malicious BIOS from being downloaded onto the user's system.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al

(5805882) in view of Noll (6185696 B1).

With regards to Claim 19, all the limitation is met by Cooper et al except the limitation

disclosed below.

The limitation of "decompressing an ancillary BIOS from the alterable section and

executing the decompressed ancillary BIOS" is met by Noll on column 5, lines 2-13.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Noll within the system of Cooper et al because the

ancillary BIOS needs to be decompressed in order to be able to download to the system. A

compressed BIOS cannot be downloaded to the system and hence decompression is a necessary

step.

Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooper et al

(5805882) in view of Bodin et al (6091430).

With respect to Claim 26, Cooper et al partly discloses the limitation of "determining

whether a video BIOS exists in an alterable firmware section of a memory system, if no video

BIOS exist in the alterable section, executing a video BIOS in a nonalterable firmware section in

the memory system" on column 10, lines 12-42. Cooper et al however does not disclose a video

BIOS. A video BIOS is disclosed by Bodin et al on column 4, lines 41-45.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Bodin et al within the system of Cooper et al because a

video BIOS would also benefit from a BIOS update being available since its functions are

analogous to a BIOS stored on computer system.

With respect to Claim 27, the combination of Cooper et al and Bodin et al meets all the

limitation except the limitation disclosed below.

The limitation of "wherein the determining and executing steps are performed during

execution of a system BIOS" is met by Cooper et al on column 10, lines 11-42.

With respect to Claim 28, the combination of Cooper et al and Bodin et al meets all the

limitation except the limitation disclosed below.

The limitation of "if a video BIOS exists in the alterable section, executing the video

BIOS in the alterable section" is partly met by Cooper et al on column 10, lines 11-42. Cooper

however does not disclose the limitation of a video BIOS.

The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Bodin et al within the system of Cooper et al because a

video BIOS would also benefit from a BIOS update being available since its functions are

analogous to a BIOS stored on computer system.

With respect to Claim 29, Cooper et al partly meets the limitation of "determining

whether a predetermined user command has been entered and, if no predetermined user

command has been entered, executing a video BIOS from the alterable section" on column 9,

lines 58-67 and column 10, lines 1-9. Cooper however does not disclose the limitation of a

video BIOS. The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to combine the teachings of Bodin et al within the system of Cooper et al because a

video BIOS would also benefit from a BIOS update being available since its functions are

analogous to a BIOS stored on computer system.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bodin et al

(6091430) in view of Cooper et al (5805882) in further view of Noll (6185696 B1).

With respect to Claim 30, all its limitation is met by the combination of Bodin et al and

Cooper et al except the limitation disclosed below.

The limitation of "decompressing a video BIOS from the alterable section and executing the

decompressed video BIOS" is met by Noll on column 5, lines 2-13.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Noll within the combination of Bodin et al and

Cooper et al because a video BIOS would also benefit from a BIOS update being available since

its functions are analogous to a BIOS stored on computer system.

Claims 31-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noll

(6185696 B1) in view of Bodin et al (6091430).

With respect to Claim 31, its limitation is similar to Claim 20 limitation as met by

Noll. The difference is that in Claim 31 the limitation of Claim 20 is applied to a video BIOS.

The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45. It would have

been obvious to combine the teachings of Bodin et al within the system of Noll because a video

BIOS would also benefit from a BIOS update being available since its functions are analogous to

a BIOS stored on computer system.

With respect to Claim 32, its limitation is similar to Claim 21 limitation as met by

Noll. The difference is that in Claim 32 the limitation of Claim 21 is applied to a video BIOS.

The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45. It would have

been obvious to combine the teachings of Bodin et al within the system of Noll because a video

BIOS would also benefit from a BIOS update being available since its functions are analogous to

a BIOS stored on computer system.

With respect to Claim 33, its limitation is similar to Claim 22 limitation as met by

Noll. The difference is that in Claim 33 the limitation of Claim 22 is applied to a video BIOS.

The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45. It would have

been obvious to combine the teachings of Bodin et al within the system of Noll because a video

BIOS would also benefit from a BIOS update being available since its functions are analogous to a BIOS stored on computer system.

With respect to Claim 34, all the limitation is met by Noll and Bodin except the limitation disclosed herein. The limitation "decompressing a video BIOS from the alterable section and executing the decompressed video BIOS" is met by Noll on column 5 lines 2-13.

With respect to Claim 35, its limitation is similar to Claim 24 limitation as met by Noll. The difference is that in Claim 35 the limitation of Claim 24 is applied to a video BIOS. The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45. It would have been obvious to combine the teachings of Bodin et al within the system of Noll because a video BIOS would also benefit from a BIOS update being available since its functions are analogous to a BIOS stored on computer system.
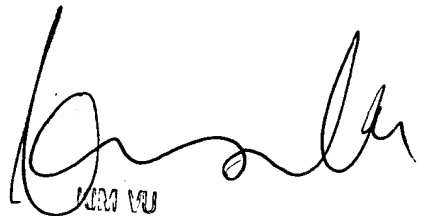
With respect to Claim 36, its limitation is similar to Claim 25 limitation as met by Noll. The difference is that in Claim 31 the limitation of Claim 20 is applied to a video BIOS. The limitation of a video BIOS is met by Bodin et al on column 4, lines 41-45. It would have been obvious to combine the teachings of Bodin et al within the system of Noll because a video BIOS would also benefit from a BIOS update being available since its functions are analogous to a BIOS stored on computer system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracey Akpati whose telephone number is 703-305-7820. The examiner can normally be reached on 8.30am-6.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 703-305-4393. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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